L2: Entry 6 of 29 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030157230
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030157230 A1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Christensen, Tove Martel Ida Elsa	Allerod		DK	
Kreiberg, Jette Dina	Roskilde		DK	
Thorsoe, Hanne	Aarhus		DK	
Buchholt, Hans Christian	Brabrand		DK	
Rasmussen, Preben	Lyngby		DK	
Nielsen, John	Copenhagen		DK	

APPL-NO: 10/ 165528 [PALM]
DATE FILED: June 7, 2002

RELATED-US-APPL-DATA:
Application 10/165528 is a division-of US application 08/983364, filed May 18, 1998, PENDING
Application 08/983364 is a a-371-of-international WO application PC/T/EP96/03051, filed July 12, 1996, UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
GB	9514438.2	1995GB-9514438.2	July 14, 1995

INT-CL: [07] A23 L 1/00

US-CL-PUBLISHED: 426/564
US-CL-CURRENT: 426/564

REPRESENTATIVE-FIGURES: NONE

ABSTRACT:

A process is described wherein there is added to an acidic environment, which contains at least one protein, a block-wise enzymatically de-esterified pectin, and wherein the pectin is a high ester pectin. Also described is a recombinant pectin methyl esterase.

L2: Entry 6 of 29 File: PGPB Aug 21, 2003

PGPUB-DOCUMENT-NUMBER: 20030157230
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030157230 A1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

PUBLICATION-DATE: August 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Christensen, Tove Martel Ida Elsa	Allerod		DK	
Kreiberg, Jette Dina	Roskilde		DK	
Thorsoe, Hanne	Aarhus		DK	
Buchholt, Hans Christian	Brabrand		DK	
Rasmussen, Preben	Lyngby		DK	
Nielsen, John	Copenhagen		DK	

US-CL-CURRENT: 426/564

CLAIMS:

What is claimed is:

1. A process comprising: a) purifying a pectin methyl esterase (PME) enzyme capable of block-wise enzymatically de-esterifying pectin; b) adding said purified pectin methyl esterase (PME) enzyme capable of block-wise enzymatically de-esterifying pectin to a pectin; c) preparing a block-wise enzymatically de-esterified pectin from said pectin by said purified pectin methyl esterase (PME) enzyme capable of block-wise enzymatically de-esterifying pectin; i) wherein said block-wise enzymatically de-esterified pectin is a high ester pectin; and ii) wherein said block-wise enzymatically de-esterified pectin contains from about 70% to about 80% ester groups, preferably about 76% ester groups; d) adding said block-wise enzymatically de-esterified pectin to an acidic environment comprising at least one protein; and e) stabilising said protein by said block-wise enzymatically de-esterified pectin.

2. A process according to claim 1 wherein the block-wise enzymatically de-esterified pectin is prepared by recombinant DNA techniques.

3. A process according to claim 1 wherein the acidic environment is an aqueous solution, preferably wherein the aqueous solution is a beverage.

4. A process according to claim 3 wherein the beverage is a drinking yoghurt, a fruit juice or a beverage comprising whey protein.

5. A process according to claim 1 wherein the protein is derived from or is

derivable from or is in a dairy product, such as milk or cheese.

6. A process according to claim 5, wherein the protein is casein or whey protein.

7. A process according to claim 1, wherein the acidic environment has a pH of from about 3.5 to about 5.5, preferably wherein the acidic environment has a pH of from 4 to about 5.5.

8. A process according to claim 1 wherein the acidic environment has a pH of about 4.

9. A process according to claim 1, wherein the block-wise enzymatically de-esterified pectin is insensitive to Ca.sup.2+ ions according to the Protocol as mentioned in the Examples.

10. A process according to claim 1, wherein the block-wise enzymatically de-esterified pectin has a high molecular weight.

11. A process according to claim 1, wherein the pectin methyl esterase de esterifies two or more adjacent galauturonic acid residues of the pectin on at least substantially all of the pectin chains.

12. A process according to claim 1, wherein the pectin methyl esterase is derived from a PME obtainable from a plant.

13. A process according to claim 12, wherein the plant is a fruit.

14. A process according to claim 13, wherein the fruit is a citrus fruit.

15. A process according to claim 14, wherein the citrus fruit is an orange.

16. A process according to claim 14 wherein the pectin methyl esterase is derived from a PME obtainable from the lamella or albedo of an orange.

17. A process according to claim 1 wherein the enzyme comprises any one of the amino acid sequences shown as SEQ.I.D. No.1 or SEQ.I.D. No. 2, or a variant, derivative or homologue thereof, including combinations thereof.

18. A process according to claim 1 wherein the enzyme is obtainable by expression of the PME coding sequence contained in NCIMB 40749 or NCIBM 40750, or a variant, derivative or homologue thereof, or combinations thereof; or by expression of a nucleotide sequence comprising the nucleotide sequence shown as SEQ.I.D. No. 3 or SEQ.I.D. No. 4, or a variant, derivative or homologue thereof, or combinations thereof.

19. A process according to claim 1 wherein the block-wise enzymatically de-esterified pectin is prepared by treating the pectin with the recombinant pectin methyl esterase in the presence of sodium ions.

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L2: Entry 22 of 29 File: USPT Aug 7, 2001

US-PAT-NO: 6271033
DOCUMENT-IDENTIFIER: US 6271033 B1

TITLE: Method for modifying production of fruit ripening enzyme

DATE-ISSUED: August 7, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Grierson; Donald	Loughbrough			GB
Schuch; Wolfgang W.	Crowthorne			GB

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Zeneca Limited	London			GB	03

APPL-NO: 08/ 162288 [PALM]
DATE FILED: December 7, 1993

PARENT-CASE:
This is a continuation of application Ser. No. 07/621,714, filed Dec. 5, 1990 now U.S. Pat. No. 5,296,376 which is a continuation-in-part of Ser. No. 07/119,614, filed Nov. 12, 1987 and a continuation of PCT application Ser. No. GB 90/01827, filed Nov. 26,1990, which included the U.S. as a designated filing.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	86262879	November 11, 1986
GB	8927048	November 30, 1989

INT-CL: [07] C12 N 15/82

US-CL-ISSUED: 435/468
US-CL-CURRENT: 435/468

FIELD-OF-SEARCH: 435/172.3, 435/240.4, 435/320.1, 435/468, 800/205, 800/DIG.44, 800/DIG.64, 935/64, 935/67

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4801540	January 1989	Hiatt et al.	435/172.3
☐	5034323	July 1991	Jorgensen et al.	435/172.3
☐	5231020	July 1993	Jorgensen et al.	435/172.3

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0271988	June 1988	EP	
0341885	November 1989	EP	
WO9012084	October 1990	WO	
WO9011682	October 1990	WO	
WO9101375	February 1991	WO	

OTHER PUBLICATIONS

Van der Krol et al, The Plant Cell, 2:291-299 (Apr. 1990).
Van der Krol et al, Plant Molecular Biology, 14:457-466 (1990).
Mol et al, Plant Molecular Biology, 13:287-294 (1989).
Tigchclaar et al, Tomato and paper production in the tropics, International symposium on Integrated Management Practices, Taiwan, pp. 123-136 (1989).
Napoli et al, The Plant Cell, 2:279-289 (Apr., 1990).
Herskowitz, Nature, 329:219-222 (Sep. 17, 1987).
Van der Krol, The Flavonoid Metabolic Pathway in Plants: Modulation of Flavonoid Expression . . . and Sense Technologies, Univ. of Amsterdam, Sep. 14, 1989.
Napoli, et al. (Apr. 1990) The Plant Cell 2: 279-289.*
Van der Krol, et al. (Apr. 1990) The Plant Cell 2: 291-299.*
van der Krol et al (1990) Plant Molecular Biology 14: 457-466.*
van der Krol, et al. Ph. D. Tresis , University of Amsterdam, Sep. 14, 1989.

ART-UNIT: 168

PRIMARY-EXAMINER: Nelson; Amy J.

ATTY-AGENT-FIRM: Pillsbury Winthrop LLP

ABSTRACT:

Process for the inhibition of the production of a gene product in a plant cell which comprises generating in the cell while the gene product is being expressed mRNA from recombinant DNA coding for part only of the gene product: also constructs for use in the process, and cells and plants that carry out the process. Specifically applicable to control of fruit ripening, in particular in tomatoes.

8 Claims, 2 Drawing figures

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Search Results - Record(s) 21 through 29 of 29 returned.

☐ 21. Document ID: US 6372477 B1

Using default format because multiple data bases are involved.

L2: Entry 21 of 29 File: USPT Apr 16, 2002

US-PAT-NO: 6372477
DOCUMENT-IDENTIFIER: US 6372477 B1

TITLE: Cloning of UDP-galactose epimerase

DATE-ISSUED: April 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
J.theta.rsboe; Morten	Nyk.theta.bing F.			DK
Brunstedt; Janne	Roskide			DK
Petersen; Steen Guldager	Rodovre			DK

US-CL-CURRENT: 435/233; 435/183, 435/200, 435/252.3, 435/320.1, 435/69.1, 536/23.2, 800/295

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

☐ 22. Document ID: US 6271033 B1

L2: Entry 22 of 29 File: USPT Aug 7, 2001

US-PAT-NO: 6271033
DOCUMENT-IDENTIFIER: US 6271033 B1

TITLE: Method for modifying production of fruit ripening enzyme

DATE-ISSUED: August 7, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Grierson; Donald	Loughbrough			GB
Schuch; Wolfgang W.	Crowthorne			GB

US-CL-CURRENT: 435/468

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 23. Document ID: US 6268195 B1

L2: Entry 23 of 29 File: USPT Jul 31, 2001

US-PAT-NO: 6268195
DOCUMENT-IDENTIFIER: US 6268195 B1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Rasmussen; Preben	Lyngby			DK

US-CL-CURRENT: 435/196; 435/183, 435/197, 435/200

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 24. Document ID: US 6083540 A

L2: Entry 24 of 29 File: USPT Jul 4, 2000

US-PAT-NO: 6083540
DOCUMENT-IDENTIFIER: US 6083540 A
** See image for Certificate of Correction **

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Thorsoe; Hanne	Aarahus C			DK
Buchholt; Hans Christian	Brabrand			DK
Rasmussen; Preben	Lyngby			DK
Nielsen; John	Copenhagen			DK

US-CL-CURRENT: 426/50; 426/52

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 25. Document ID: US 5945580 A

L2: Entry 25 of 29 File: USPT Aug 31, 1999

US-PAT-NO: 5945580
DOCUMENT-IDENTIFIER: US 5945580 A

TITLE: Capsicum hemicellulase polynucleotides and polypeptides

DATE-ISSUED: August 31, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dunsmuir; Pamela	Piedmont	CA		
Harpster; Mark H.	Albany	CA		

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/468, 536/23.2, 536/23.6, 800/278, 800/317.1, 800/317.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 26. Document ID: US 5484906 A

L2: Entry 26 of 29 File: USPT Jan 16, 1996

US-PAT-NO: 5484906
DOCUMENT-IDENTIFIER: US 5484906 A

TITLE: DNA clone encoding an ethylene-forming enzyme, constructs, plant cells and plants based thereon

DATE-ISSUED: January 16, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bird; Colin R.	Bracknell			GB2
Ray; John A.	Bracknell			GB2
Schuch; Wolfgang W.	Crowthorne			GB2

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/6, 536/23.6, 536/24.5, 800/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 27. Document ID: US 5449764 A

L2: Entry 27 of 29 File: USPT Sep 12, 1995

US-PAT-NO: 5449764
DOCUMENT-IDENTIFIER: US 5449764 A

TITLE: Isolated DNA derived from peach which codes for an ethylene-forming enzyme

DATE-ISSUED: September 12, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bird; Colin R.	Bracknell			GB2
Ray; John A.	Wooden Hill			GB
Schuch; Wolfgang W.	Heathlake Park			GB

US-CL-CURRENT: 536/23.2; 536/23.6, 536/24.5, 536/25.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 28. Document ID: US 5413937 A

L2: Entry 28 of 29 File: USPT May 9, 1995

US-PAT-NO: 5413937
DOCUMENT-IDENTIFIER: US 5413937 A

TITLE: DNA constructs containing segments from tomato polygalacturonase and pectin esterase genes

DATE-ISSUED: May 9, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Grierson; Donald	Loughbrough			GB2
Schuch; Wolfgang	Crowthorne			GB2

US-CL-CURRENT: 435/320.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

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☐ 29. Document ID: US 5296376 A

L2: Entry 29 of 29 File: USPT Mar 22, 1994

US-PAT-NO: 5296376
DOCUMENT-IDENTIFIER: US 5296376 A

TITLE: DNA, constructs, cells and plants derived therefrom

DATE-ISSUED: March 22, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		

Grierson; Donald	Loughbrough	GB2
Schuch; Wolfgang W.	Crowthorne	GB2

US-CL-CURRENT: 435/320.1; 800/317.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

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L2: Entry 23 of 29 File: USPT Jul 31, 2001

US-PAT-NO: 6268195
DOCUMENT-IDENTIFIER: US 6268195 B1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Rasmussen; Preben	Lyngby			DK

US-CL-CURRENT: 435/196; 435/183, 435/197, 435/200

CLAIMS:

What is claimed is:

1. A recombinant plant pectin methyl esterase (PME) enzyme comprising any amino acid sequence selected from the group consisting of: SEQ ID NO: 1, SEQ ID NO: 2, and a variant, derivative or homologue thereof wherein said variant, derivative or homologue thereof is 75% homologous to SEQ ID NOS:1 or 2 and blockwise de-esterifies pectin.

2. A combination of enzymes comprising a recombinant plant PME enzyme according to claim 1 and a fungal PME or other pectin degrading enzyme, wherein said other pectin degrading enzyme enables the de-esterification process to be more controlled.

3. The recombinant enzyme of claim 1 wherein said plant PME is a fruit PME.

4. The recombinant enzyme of claim 3 wherein said fruit PME is a citrus PME.

5. The recombinant enzyme of claim 4 wherein said citrus PME is an orange PME.

6. The recombinant enzyme of claim 1 wherein said recombinant enzyme comprises SEQ ID NO: 1.

7. The recombinant enzyme of claim 1 wherein said recombinant enzyme comprises SEQ ID NO: 2.

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L2: Entry 23 of 29 File: USPT Jul 31, 2001

US-PAT-NO: 6268195
DOCUMENT-IDENTIFIER: US 6268195 B1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Rasmussen; Preben	Lyngby			DK

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Danisco A/S	Copenhagen			DK	03

APPL-NO: 09/ 413068 [PALM]
DATE FILED: October 6, 1999

PARENT-CASE:
RELATED APPLICATIONS The present application is a divisional of application Ser. No. 08/983,364, filed May 18, 1998 which is the U.S. National Phase under 35 U.S.C. .sctn. 371 of International Application No. PCT/EP96/03051 filed Jul. 12, 1996.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
GB	9514438	July 14, 1995

INT-CL: [07] C12 N 9/00, C12 N 9/16, C12 N 9/24

US-CL-ISSUED: 435/196; 435/183, 435/197, 435/200
US-CL-CURRENT: 435/196; 435/183, 435/197, 435/200

FIELD-OF-SEARCH: 435/183, 435/197, 435/196, 435/200

PRIOR-ART-DISCLOSED:

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO94/25575	November 1994	WO	

L2: Entry 24 of 29 File: USPT Jul 4, 2000

US-PAT-NO: 6083540
DOCUMENT-IDENTIFIER: US 6083540 A
**** See image for Certificate of Correction ****

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Thorsoe; Hanne	Aarahus C			DK
Buchholt; Hans Christian	Brabrand			DK
Rasmussen; Preben	Lyngby			DK
Nielsen; John	Copenhagen			DK

US-CL-CURRENT: 426/50; 426/52

CLAIMS:

What is claimed is:

1. A method of block-wise enzymatically de-esterifying a pectin comprising the step of:

treating the pectin with a recombinant enzyme comprising any amino acid selected from the group consisting of: SEQ ID NO:1, SEQ ID NO:2, and a variant, derivative or homologue thereof.

2. The method of claim 1, wherein the block-wise enzymatically degraded pectin is prepared by treating a pectin with a recombinant enyme that is obtainable by expression of the PME coding sequence contained in NCIMB 40749 or NCIMB 40750, or a variant, derivative or homologue thereof.

3. The method of claim 1, wherein the block-wise enzymatically de-esterified pectin is prepared by treating the pectin with the recombinant pectin methyl esterase in the presence of sodium ions.

4. The method of claim 3, wherein the block-wise enzymatically de-esterified pectin is prepared by treating the pectin with the recombinant pectin methyl esterase in the presence of a salt selected from the group consisting of NaCl, NaNO.sub.3 and Na.sub.2 SO.sub.4.

5. The method of claim 1, wherein the block-wise enzymatically degraded pectin

is prepared by treating a pectin with a recombinanat enzyme that is obtainable by expression of the PME coding sequence contained in NCIMB 40749 or NCIMB 40750.

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Search Results - Record(s) 21 through 29 of 29 returned.

☐ 21. Document ID: US 6372477 B1

Using default format because multiple data bases are involved.

L2: Entry 21 of 29 File: USPT Apr 16, 2002

US-PAT-NO: 6372477
DOCUMENT-IDENTIFIER: US 6372477 B1

TITLE: Cloning of UDP-galactose epimerase

DATE-ISSUED: April 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
J.theta.rsboe; Morten	Nyk.theta.bing F.			DK
Brunstedt; Janne	Roskide			DK
Petersen; Steen Guldager	Rodovre			DK

US-CL-CURRENT: 435/233; 435/183, 435/200, 435/252.3, 435/320.1, 435/69.1, 536/23.2, 800/295

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 22. Document ID: US 6271033 B1

L2: Entry 22 of 29 File: USPT Aug 7, 2001

US-PAT-NO: 6271033
DOCUMENT-IDENTIFIER: US 6271033 B1

TITLE: Method for modifying production of fruit ripening enzyme

DATE-ISSUED: August 7, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Grierson; Donald	Loughbrough			GB
Schuch; Wolfgang W.	Crowthorne			GB

US-CL-CURRENT: 435/468

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 23. Document ID: US 6268195 B1

L2: Entry 23 of 29 File: USPT Jul 31, 2001

US-PAT-NO: 6268195
DOCUMENT-IDENTIFIER: US 6268195 B1

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Rasmussen; Preben	Lyngby			DK

US-CL-CURRENT: 435/196; 435/183, 435/197, 435/200

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 24. Document ID: US 6083540 A

L2: Entry 24 of 29 File: USPT Jul 4, 2000

US-PAT-NO: 6083540
DOCUMENT-IDENTIFIER: US 6083540 A
**** See image for Certificate of Correction ****

TITLE: Process for stabilizing proteins in an acidic environment with a high-ester pectin

DATE-ISSUED: July 4, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Tove Martel Ida Elsa	Allerod			DK
Kreiberg; Jette Dina	Roskilde			DK
Thorsoe; Hanne	Aarahus C			DK
Buchholt; Hans Christian	Brabrand			DK
Rasmussen; Preben	Lyngby			DK
Nielsen; John	Copenhagen			DK

US-CL-CURRENT: 426/50; 426/52

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 25. Document ID: US 5945580 A

L2: Entry 25 of 29 File: USPT Aug 31, 1999

US-PAT-NO: 5945580
DOCUMENT-IDENTIFIER: US 5945580 A

TITLE: Capsicum hemicellulase polynucleotides and polypeptides

DATE-ISSUED: August 31, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dunsmuir; Pamela	Piedmont	CA		
Harpster; Mark H.	Albany	CA		

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/468, 536/23.2, 536/23.6, 800/278, 800/317.1, 800/317.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 26. Document ID: US 5484906 A

L2: Entry 26 of 29 File: USPT Jan 16, 1996

US-PAT-NO: 5484906
DOCUMENT-IDENTIFIER: US 5484906 A

TITLE: DNA clone encoding an ethylene-forming enzyme, constructs, plant cells and plants based thereon

DATE-ISSUED: January 16, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bird; Colin R.	Bracknell			GB2
Ray; John A.	Bracknell			GB2
Schuch; Wolfgang W.	Crowthorne			GB2

US-CL-CURRENT: 800/298; 435/320.1, 435/419, 435/6, 536/23.6, 536/24.5, 800/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWMC | Draw De

☐ 27. Document ID: US 5449764 A

L2: Entry 27 of 29 File: USPT Sep 12, 1995

US-PAT-NO: 5449764
DOCUMENT-IDENTIFIER: US 5449764 A

TITLE: Isolated DNA derived from peach which codes for an ethylene-forming enzyme

DATE-ISSUED: September 12, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bird; Colin R.	Bracknell			GB2
Ray; John A.	Wooden Hill			GB
Schuch; Wolfgang W.	Heathlake Park			GB

US-CL-CURRENT: 536/23.2; 536/23.6, 536/24.5, 536/25.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 28. Document ID: US 5413937 A

L2: Entry 28 of 29 File: USPT May 9, 1995

US-PAT-NO: 5413937
DOCUMENT-IDENTIFIER: US 5413937 A

TITLE: DNA constructs containing segments from tomato polygalacturonase and pectin esterase genes

DATE-ISSUED: May 9, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		
Grierson; Donald	Loughbrough			GB2
Schuch; Wolfgang	Crowthorne			GB2

US-CL-CURRENT: 435/320.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 29. Document ID: US 5296376 A

L2: Entry 29 of 29 File: USPT Mar 22, 1994

US-PAT-NO: 5296376
DOCUMENT-IDENTIFIER: US 5296376 A

TITLE: DNA, constructs, cells and plants derived therefrom

DATE-ISSUED: March 22, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bridges; Ian G.	Slater	IA		

Grierson; Donald	Loughbrough	GB2
Schuch; Wolfgang W.	Crowthorne	GB2

US-CL-CURRENT: 435/320.1; 800/317.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw De

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Terms	Documents
L1 with pectin	29

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Previous Page Next Page Go to Doc#

WEST Search History

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DATE: Tuesday, August 17, 2004

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	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ		
☐	L7	pectin methyl esterase same pectin	130
☐	L6	pectin methyl esterase with pectin	130
☐	L5	L1 with pectin methyl esterase	0
☐	L4	L2 with pectin methyl esterase	0
☐	L3	L2 with PME	0
☐	L2	L1 with pectin	29
☐	L1	polygalacturonase with antisense	217

END OF SEARCH HISTORY

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                                                         ENTRY    SESSION
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=> file medline hcaplus biosis biotechds scisearch embase
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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.18       0.39

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=> s polygalacturonase with antisense and pectin modification
L1            1 POLYGALACTURONASE WITH ANTISENSE AND PECTIN MODIFICATION

=> d l1 ibib ab

L1   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2000:911447  HCAPLUS Full-text
DOCUMENT NUMBER:          134:67165
TITLE:                    Enzymatic modification of pectin and use of high-ester
                          pectin in stabilizing proteins in an acidic dairy and
                          fruit drinks
INVENTOR(S):              Christensen, Tove Martel Ida Else; Kreiberg, Jette
                          Dina
PATENT ASSIGNEE(S):       Danisco A/S, Den.
SOURCE:                   PCT Int. Appl., 78 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
```

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000078982	A1	20001228	WO 2000-IB869	20000615
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1185677	A1	20020313	EP 2000-937137	20000615
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: GB 1999-14209 A 19990617
WO 2000-IB869 W 20000615

AB A process for modifying a pectin, comprising providing a host having pectin Me esterase (PME) activity and polygalacturonase (PG) activity; transforming said host by silencing PG activity thereby to provide an increased PME to PG ratio; preparing a PME extract from the transformed host; using the PME extract to modify pectin, is disclosed. Use of high-ester pectin in stabilizing proteins in an acidic dairy and fruit drinks to improve viscosity and stability or extend shelf-life is claimed. Silencing PG activity in tomato using PG antisense oligonucleotides for the production of PME modified pectin and its use in yogurt, milk/fruit juice, and whey or soya containing drinks, is described.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s polygalacturonase silencing and pectin modification
L2 0 POLYGALACTURONASE SILENCING AND PECTIN MODIFICATION

=> s polygalacturonase complimentary dna and pectin modification
L3 0 POLYGALACTURONASE COMPLIMENTARY DNA AND PECTIN MODIFICATION

=> s (antisense dna or complimentary dna) and pectin modification
L4 0 (ANTISENSE DNA OR COMPLIMENTARY DNA) AND PECTIN MODIFICATION

=> s (antisense dna or complimentary dna) and pectin
L5 7 (ANTISENSE DNA OR COMPLIMENTARY DNA) AND PECTIN

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6 7 DUP REM L5 (0 DUPLICATES REMOVED)

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=> dup rem l5
PROCESSING COMPLETED FOR L5
L6             7 DUP REM L5 (0 DUPLICATES REMOVED)

=> d l6 1-7 ibib ab

L6   ANSWER 1 OF 7  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2003:931581  HCAPLUS
DOCUMENT NUMBER:          140:1663
TITLE:                    Use of phosphoenol pyruvate carboxylase, expansin,
                          cellulase, xyloglucan endoglycosyltransferase and
                          pectin esterase in improving cotton fiber
                          yield and quality
INVENTOR(S):              Wilkins, Thea A.
PATENT ASSIGNEE(S):       The Regents of the Universtiy of California, USA
SOURCE:                   PCT Int. Appl., 41 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     WO 2003098186         A2    20031127    WO 2003-US15269         20030516
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ,
             MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
             NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
             GW, ML, MR, NE, SN, TD, TG
     US 2003221218         A1    20031127    US 2002-150559          20020517
PRIORITY APPLN. INFO.:                       US 2002-150559      A   20020517
AB   The present invention provides plant fiber expansion (FE) genes that
     encode FE polypeptides, such as phosphoenol pyruvate carboxylase
     (PEPcase), expansin, cellulase, xyloglucan endoglycosyltransferase (XET),
     and pectin Me esterase (PME). The invention further provides
     fiber-specific promoters. Still further, the invention provides mol.
     strategies for modulating fiber quality and yield in fiber producing
     plants by modulating expression of FE genes or mutant forms of FE genes.

L6   ANSWER 2 OF 7  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2004:16536  HCAPLUS
DOCUMENT NUMBER:          141:50723
TITLE:                    Antisense transgenesis of tobacco with a flax
                          pectin methylesterase affects pollen
                          ornamentation
AUTHOR(S):                Lacoux, J.; Gutierrez, L.; Dantin, F.; Beaudoin, B.;
                          Roger, D.; Laine, E.
CORPORATE SOURCE:         Faculte des Sciences, Laboratoire de Biotechnologies
                          et Physiologie Vegetales, Universite de Picardie Jules
                          Verne, Amiens, 80039, Fr.
SOURCE:                   Protoplasma (2003), 222(3-4), 205-209
                          CODEN: PROTA5; ISSN: 0033-183X
PUBLISHER:                Springer-Verlag Wien
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Antisense transgenesis of tobacco (Nicotiana tabacum) with a partial flax
     (Linum usitatissimum L.) pectin methylesterase (Lupme3) cDNA
     sequence yielded plants with altered pollen content. Moreover, the
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characteristically sculptured cell wall surrounding the pollen grains was modified in transgenic tobacco plants: the wavy ornamentation was dramatically reduced, suggesting the involvement of the demethylation of **pectin** in the pollen cell wall-specific structure. Germination of pollen was decreased and the pollen tube surface aspect was also different in transgenic plants.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:615868 HCAPLUS
DOCUMENT NUMBER: 137:182517
TITLE: Use of CJAS1 gene of Brassica carinata in regulating plant seed fiber content and seed coat color in response to plant stress
INVENTOR(S): Zheng, Zhifu; Uchacz, Tina; Taylor, Janet
PATENT ASSIGNEE(S): National Research Council of Canada, Can.
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002063018	A2	20020815	WO 2002-CA141		20020206
WO 2002063018	A3	20021010			
WO 2002063018	C1	20021205			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
EP 1360296	A2	20031112	EP 2002-711698		20020206
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
JP 2004522442	T2	20040729	JP 2002-562755		20020206
PRIORITY APPLN. INFO.:			US 2001-266875P	P	20010207
			WO 2002-CA141	W	20020206

AB The present invention relates to a nucleotide sequences commonly designated CJAS1 comprising a novel gene from plants. The novel gene encodes a protein that is involved in seed formation and is assocd. with plant defense. The invention further relates to the use of the nucleotide sequence in the sense or antisense orientation to inhibit the expression of the plant gene corresponding to the CJAS1 sequence as a means to alter seed metab. in plants, particularly cruciferous plants, more particularly Brassica species, to generate seeds with reduced fiber content and / or altered seed coats. The invention also relates to CJAS1 gene sequence homologs of Brassica napus.

L6 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:158000 HCAPLUS
DOCUMENT NUMBER: 136:195356
TITLE: Pear genes for .beta.-galactosidase, **pectin** methylesterase, polygalacturonase, expansins and their use as the target for antisense blocking in fruit ripening control
INVENTOR(S): Matias Fonseca, Sandra Cristina; Balde, Aladje; Soares Pais, Maria Salome

PATENT ASSIGNEE(S): Instituto de Ciencia Aplicada e Tecnologia (ICAT), Port.
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002016613	A2	20020228	WO 2001-PT21	20010820
WO 2002016613	A3	20020912		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PT 102511	A	20020228	PT 2000-102511	20000822
AU 2001082731	A5	20020304	AU 2001-82731	20010820
EP 1322770	A2	20030702	EP 2001-961469	20010820
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001013366	A	20030729	BR 2001-13366	20010820
US 2004049809	A1	20040311	US 2003-362091	20030902
PRIORITY APPLN. INFO.:			PT 2000-102511 A	20000822
			WO 2001-PT21 W	20010820

AB This invention provides isolated and purified nucleotide sequences which are differentially expressed during pear fruit ripening, and their protein products. Specifically, the invention provides genes for cell wall hydrolases including .beta.-galactosidase (.beta.gal), **pectin** methylesterase (PM), and polygalacturonase (PG); and for a novel class of cell wall proteins, expansins (Exp1 and Exp2). The isolated genes can be inserted into expression cassettes and cloned in an expression vector which can be used to transform a host cell by selected transformation methods. Transgenic plants can be regenerated from transformed plant cells by in vitro culture techniques. The nucleotide sequences disclosed in this invention encode proteins which are described as having an effective action in fruit ripening control. When used in antisense orientation they can delay fruit softening and mesocarp deterioration, bringing important advantages for fruit producers.

L6 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:225943 HCAPLUS
DOCUMENT NUMBER: 136:398569
TITLE: Adenosine kinase deficiency is associated with developmental abnormalities and reduced transmethylation
AUTHOR(S): Moffatt, Barbara A.; Stevens, Yvonne Y.; Allen, Michael S.; Snider, Jamie D.; Pereira, Luiz A.; Todorova, Margarita I.; Summers, Peter S.; Weretilnyk, Elizabeth A.; Martin-McCaffrey, Luke; Wagner, Conrad
CORPORATE SOURCE: Department of Biology, University of Waterloo, Waterloo, ON, N2L 3G1, Can.
SOURCE: Plant Physiology (2002), 128(3), 812-821
CODEN: PLPHAY; ISSN: 0032-0889
PUBLISHER: American Society of Plant Biologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Adenosine (Ado) kinase (ADK; ATP:Ado 5' phosphotransferase, EC 2.7.1.20) catalyzes the salvage synthesis of adenine monophosphate from Ado and ATP.

In Arabidopsis, ADK is encoded by two cDNAs that share 89% nucleotide identity and are constitutively, yet differentially, expressed in leaves, stems, roots, and flowers. To investigate the role of ADK in plant metab., lines deficient in this enzyme activity have been created by sense and antisense expression of the ADK1 cDNA. The levels of ADK activity in these lines range from 7% to 70% of the activity found in wild-type Arabidopsis. Transgenic plants with 50% or more of the wild-type activity have a normal morphol. In contrast, plants with less than 10% ADK activity are small with rounded, wavy leaves and a compact, bushy appearance. Because of the lack of elongation of the primary shoot, the siliques extend in a cluster from the rosette. Fertility is decreased because the stamen filaments do not elongate normally; hypocotyl and root elongation are reduced also. The hydrolysis of S-adenosyl-L-homo-cysteine (SAH) produced from S-adenosyl-L-methionine (SAM)-dependent methylation reactions is a key source of Ado in plants. The lack of Ado salvage in the ADK-deficient lines leads to an increase in the SAH level and results in the inhibition of SAM-dependent transmethylation. There is a direct correlation between ADK activity and the level of methylesterified **pectin** in seed mucilage, as monitored by staining with ruthenium red, immunofluorescence labeling, or direct assay. These results indicate that Ado must be steadily removed by ADK to prevent feedback inhibition of SAH hydrolase and maintain SAM utilization and recycling.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:326814 HCAPLUS

DOCUMENT NUMBER: 126:303832

TITLE: Control of plant metabolism and seed and storage organ composition using ribozymes

INVENTOR(S): Zwick, Michael G.; Edington, Brent E.; Mcswiggen, James A.; Merlo, Patricia Ann; Guo, Lining; Skokut, Thomas A.; Young, Scott A.; Folkerts, Otto; Merlo, Donald J.

PATENT ASSIGNEE(S): Ribozyme Pharmaceuticals, Inc., USA; DowElanco; Zwick, Michael G.; Edington, Brent E.; Mcswiggen, James A.; Merlo, Patricia Ann; Guo, Lining; Skokut, Thomas A.; Young, Scott A.; et al.

SOURCE: PCT Int. Appl., 154 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9710328	A2	19970320	WO 1996-US11689	19960712
WO 9710328	A3	19970515		
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
CA 2226728	AA	19970320	CA 1996-2226728	19960712
AU 9667617	A1	19970401	AU 1996-67617	19960712
EP 842286	A2	19980520	EP 1996-927999	19960712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1196091	A	19981014	CN 1996-196925	19960712
JP 11509733	T2	19990831	JP 1996-506989	19960712
BR 9610402	A	20000111	BR 1996-10402	19960712
US 6350934	B1	20020226	US 1996-679645	19960712

US 2003014775 A1 20030116 US 2001-961077 20010921
PRIORITY APPLN. INFO.: US 1995-1135P P 19950713
US 1994-300726 A2 19940902
US 1996-679645 A3 19960712
WO 1996-US11689 W 19960712

AB Methods of using ribozymes to control gene expression in plants are described. Ribozymes aimed at the granule-bound starch synthase and .DELTA.9 desaturase are described for use in the modulation of carbohydrate and fatty acid metab. Potential ribozyme cleavage sites in the mRNAs for the two enzymes were identified by examg. their sequences and a no. of these sites were tested using an in vitro RNAse H assay. Hammerhead and hairpin enzymes were prepd. against the best candidate sites. Corn callus was transformed with expression constructs and callus and transgenic plants regenerated. Plants expressing the .DELTA.9 desaturase ribozyme gene showed decreased levels of the desaturase mRNA, although the gene was still being transcribed, and increased levels of stearic acid in leaf.

L6 ANSWER 7 OF 7 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 1991-05710 BIOTECHDS
TITLE: The regulation of endogenous polygalacturonase gene expression in transgenic tomatoes by chimeric sense and antisense genes;
tomato fruit ripening prevention using polygalacturonase antisense RNA or sense RNA; **antisense** **DNA**, sense DNA gene cloning (conference abstract)
AUTHOR: Smith C J S; Watson C F; Grierson D; Bird C R; Ray J; Schuch W
CORPORATE SOURCE: ICI-Seeds
LOCATION: University of Nottingham, School of Agriculture, Sutton Bonnington, Loughborough, LE12 5RD, UK.
SOURCE: J.Cell.Biochem.; (1991) Suppl.15D, 27
CODEN: JCEBD5
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tomato (Lycopersicon esculentum) fruit ripening is accompanied by substantial accumulation of cell wall polygalacturonase (EC-3.2.1.15), which is thought to be involved in **pectin** breakdown. This accumulation of enzyme was largely prevented by transforming plants with a single antisense polygalacturonase gene. In selfed progeny, believed to be homozygous with respect to the inserted antisense gene, polygalacturonase accumulated during ripening to less than 1% of the normal level. The only other effect on ripening detected was an inhibition of in vivo **pectin** depolymerization. A similar reduction in polygalacturonase activity has been observed in plants transformed with a chimeric truncated polygalacturonase sense gene. (3 ref)

=> d his

(FILE 'HOME' ENTERED AT 12:24:32 ON 17 AUG 2004)

FILE 'STNGUIDE' ENTERED AT 12:24:37 ON 17 AUG 2004

FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 12:26:27 ON 17 AUG 2004
L1 1 S POLYGALACTURONASE WITH ANTISENSE AND PECTIN MODIFICATION
L2 0 S POLYGALACTURONASE SILENCING AND PECTIN MODIFICATION
L3 0 S POLYGALACTURONASE COMPLIMENTARY DNA AND PECTIN MODIFICATION
L4 0 S (ANTISENSE DNA OR COMPLIMENTARY DNA) AND PECTIN MODIFICATION
L5 7 S (ANTISENSE DNA OR COMPLIMENTARY DNA) AND PECTIN
L6 7 DUP REM L5 (0 DUPLICATES REMOVED)

=> lo y

LO IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	41.48	41.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-5.15	-5.15

STN INTERNATIONAL LOGOFF AT 12:33:54 ON 17 AUG 2004